

Building your own Arterial Blood Gas Simulator

Step 1-

Remove the insides of the old arterial blood gas machine you have acquired. Your prepared machine should look like the picture below.



Now you will need to put together a fluid collection system to collect the injected samples. Drain a 1000ml bag of sterile water then attach the giving set to a three-way tap. Run a syringe driver line from the three-way tap to the injection port on the ABG carcass.

N:B If you wished there is sufficient space within the ABG carcass to build a micro ATX form factor pc. The total cost of parts should not exceed £150 . Inc Motherboard/hard drive/Cd rom/Memory/Processor etc. Make sure your chosen motherboard has onboard sound/graphics and LAN to keep the cost down. Also make sure you use brass spacers to lift the motherboard away from the ABG carcass and prevent any short circuits.

Step Two



Plug in the network crossover cable to the Ethernet ports on both computers.

Ask an IT colleague to configure both Pc's to "See each other" on a Local Area Network (LAN).

If you cannot find an IT colleague then there are plenty of articles on the web to talk you through the process, which is quite simple.

Unfortunately there is not enough time for me to include networking in this workshop.

Step Three

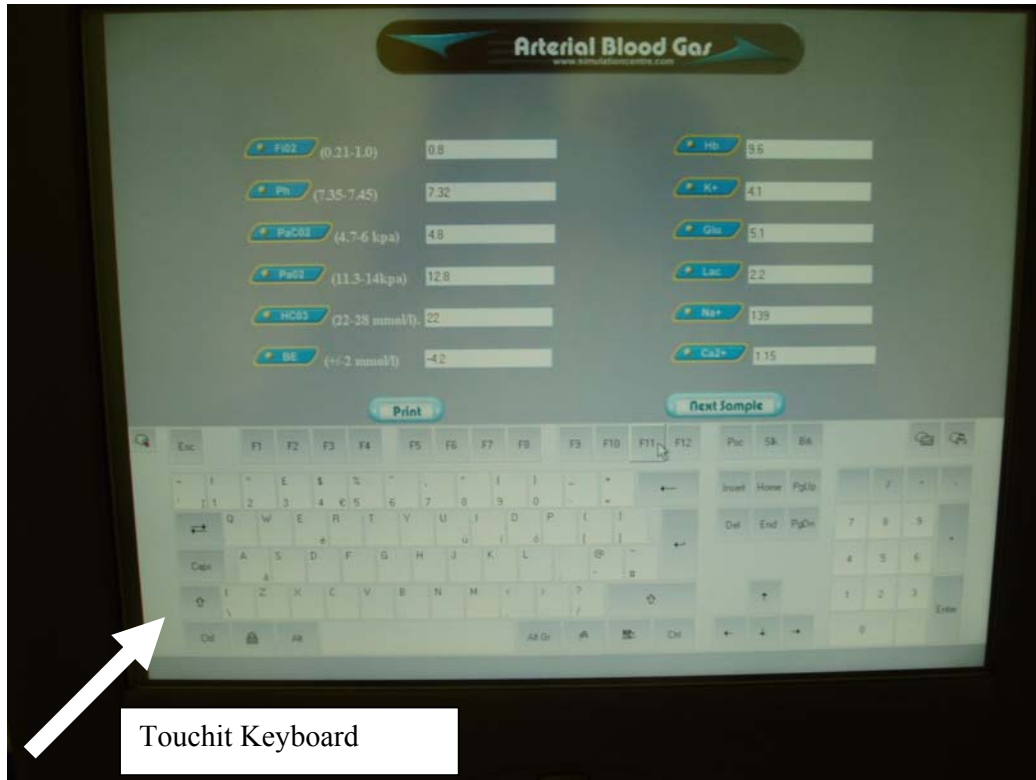
Attach the Touch screen monitor to the laptop/PC that is going to be part of the ABG machine. Follow the included instructions to install the monitor and activate its touch screen functions (the monitor requires a normal VGA port and 1 USB port)

Step Four

Download the 'Touch it' software from

<http://www.chessware.ch/en/touchit.htm>

This will install a touch screen Qwerty keyboard on your touch screen monitor.



Step Five

You must now install Microsofts .net 2.0. Framework

This is a Microsoft framework that allows programs that have been developed in Visual Basic to run on your PC.

All you need to do is connect to the Internet and go to

<http://www.asp.net/downloads/essential.aspx?tabid=62>

You can also click on the **.net** link on the ABG page on the Nams website and you will be automatically taken to the Microsoft download centre where you will be prompted to install the .net framework..

Step Six

The final step involves the installation of the ABG software itself. This must be installed on to both computers for the system to work. The software can be found on both the Nams website

www.namsonline.com

Or www.patientsimulation.co.uk

You must follow the onscreen link to the ABG machine page and then follow the on-screen instructions to install the ABG software on your PC and complete the installation process.



Using the ABG machine

You may know click on the ABG sim Icon in the downloaded file on each of the two computers you are using for your ABG machine.

On the computer that is attached to the touch screen click on the ABG sim icon, this will launch the ABG program with touch screen interface .On the computer that you are using to send the results click on the ABG sim update file, and this will launch the software that will allow you to enter accurate results and send them to the ABG machine for viewing by the student/candidate.